One Stop, Two Lenses

Compare how science and public policy use evidence.

11.CL.8 "Read, analyze, and evaluate texts from science, social studies, and other academic disciplines and explain how those disciplines treat domain-specific vocabulary and content and organize information."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline two terms used for scientific measurements, circle the public-policy term defined in the passage, and number the two sentences that explain each report's order.

The Heat at a Bus Stop

1 At a bus stop beside a school, students notice that the sidewalk feels hotter than the nearby lawn. An environmental scientist would start with a testable question: How do these surfaces differ in temperature at noon? A handheld infrared thermometer can measure *surface temperature*, the temperature of each surface's top layer. Students could take several readings from the pavement and the grass, then compare averages. They would record the time, sunlight, and recent rain because those conditions may affect readings. A surface reading does not tell them the temperature of the air a waiting rider breathes.

2 Suppose readings average 42°C on pavement and 31°C on grass. The scientist reports the *temperature difference* as 11°C, then asks what might explain it. Pavement and grass may absorb and release energy differently, but shade and moisture can also matter. The science report places methods before results so readers can judge whether the comparison was fair. It then separates an observed pattern from a proposed explanation. Because this test measures surfaces at one place and time, it cannot prove that every bus stop has hotter air or that any single material caused the entire difference.

3 A city planner uses the same findings to ask a different question: Who waits in the heat, and where should the city invest? In a public-policy report, *access* means whether riders can reach a usable shelter, not whether they own a bus pass. The planner might list stops without shade, compare how many riders use them, and describe the cost of adding shelters. The report moves from a public need to possible actions and trade-offs, such as maintenance costs and sidewalk space. Surface temperatures support the concern, but decisions also require rider input and air-temperature measurements.

2 ANSWER WITH EVIDENCE

Use the passage

1. How does the passage define *surface temperature*, and why can that measurement not describe the air a rider breathes?

2. Why does the science report place methods before results? Name one claim the one-site test cannot support.

3. What does *access* mean in the public-policy report? How does that meaning guide the planner's choice of evidence?

4. Compare the order of information in the two reports. How does each order serve the report's purpose?

3 YOUR TURN

Your own words

Choose a different shared problem, such as cafeteria food waste or noise near a library. In 70 to 95 words, explain how a scientist and a public-policy researcher might each define one useful term, order a report, and use evidence for a different purpose. Do not reuse the bus-stop example.

ANSWER KEY

One Stop, Two Lenses

GRADE 11 · 11.CL.8

PART 1 · READ AND MARK

Underline two terms used for scientific measurements, circle the public-policy term defined in the passage, and number the two sentences that explain each report's order. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How does the passage define *surface temperature*, and why can that measurement not describe the air a rider breathes?	**It is the temperature of a surface's top layer, not a measurement of air temperature.**
2	Why does the science report place methods before results? Name one claim the one-site test cannot support.	**Methods let readers judge whether the comparison was fair. The test cannot show that every bus stop has hotter air or that one material caused the entire difference.**
3	What does *access* mean in the public-policy report? How does that meaning guide the planner's choice of evidence?	**Access means being able to reach a usable shelter. The planner considers which stops lack shade and how many riders use them.**
4	Compare the order of information in the two reports. How does each order serve the report's purpose?	**The science report gives methods before results and distinguishes observations from explanations so readers can evaluate a test. The policy report moves from a public need to actions and trade-offs so readers can weigh a decision.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

To study cafeteria food waste, an environmental scientist might define *mass* as the amount of discarded food measured in kilograms. The report would describe how leftovers were collected before presenting daily totals and possible causes. A public-policy researcher might define *participation* as the share of students who choose a school meal. That report would begin with a community concern, compare options such as smaller portions, and discuss costs. The scientist needs consistent measurements to test a pattern; the researcher needs student feedback to judge which change is practical.

For the marking job, accept scientific measurement terms such as "surface temperature" and "temperature difference." Students should circle "access" and number the sentences beginning "The science report places methods" and "The report moves from a public need."